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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/511,972	10/20/2004	Christoph Gerard August Hoelen	NL 020351	7203
24737	7590	04/12/2006	EXAMINER	
PHILIPS INTELLECTUAL PROPERTY & STANDARDS P.O. BOX 3001 BRIARCLIFF MANOR, NY 10510			MAKIYA, DAVID J	
			ART UNIT	PAPER NUMBER
			2875	

DATE MAILED: 04/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/511,972

Applicant(s)

HOELEN ET AL.

Examiner

David J. Makiya

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 October 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6/9/05.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Objections

Claims 3, 11, 15, and 17 are objected to because of incorrect use of antecedent basis.

“The average angle” of claim 3 will be interpreted as “an average angle.” “The lighting system as claimed in claim 1 ... $1.5 < S_{tr}/S_{es} < 4$ ” will be interpreted as “The lighting system as claimed in claim 10...” “A lighting system as claimed in claim 13...light-emitting diodes” will be interpreted as “A lighting system as claimed in claim 14...” “A display device as claimed in claim 15” will be interpreted as “A display device as claimed in claim 16.”

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-13 and 16-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Umemoto et al. (US Patent 5,727,107).

With respect to claim 1, Umemoto et al. teaches a lighting system provided with a light emitting panel 1 comprising a front wall 11, a rear wall 18 situated opposite thereto, and furthermore, between the front and the rear wall, a translucent input edge surface 13 for coupling light into the light emitting panel, while at least a light source 51 is associated with the input edge surface (Figure 9), and while, in operation, light originating from the light source is incident on the input edge surface and distributes itself in the light emitting panel, characterized in that

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the rear wall in a first portion of the light emitting panel is provided with a multiplicity of steps 21, and in that a second portion of the light emitting panel widens from the input edge surface in a direction facing the first portion (Figure 4).

With respect to claim 2, Umemoto et al. teaches the lighting system characterized in that a surface of the steps facing the input edge surface makes an average angle β_{av} (θ_2) with respect to a normal on a bisecting plane bisecting the light emitting panel, wherein the bisecting plane comprises a bisecting line in the input edge surface, the bisecting line being parallel to the front wall and bisecting the input edge surface, and wherein the angle β_{av} is at least 5° (Column 7, Lines 39-43).

With respect to claim 3, Umemoto et al. teaches the lighting system characterized in that an average angle β is in the range $5 \leq \beta_{av} \leq 25^\circ$ (Column 7, Lines 39-43).

With respect to claim 4, Umemoto et al. teaches the lighting system characterized in that the surface of the steps facing the input edge surface comprises a specular reflector on a side facing away from the input edge surface (Column 6, Lines 6-18).

With respect to claim 5, Umemoto et al. teaches the lighting system characterized in that the steps comprise a diffuser 74 on a side facing away from the light emitting panel while an air gap (not numbered) is maintained between the steps and the diffuser (Figure 13).

With respect to claim 6, Umemoto et al. teaches the lighting system characterized in that the height h_{st} of a step is in the range $0.1 \leq h_{st} \leq 0.5$ mm (Column 6, Lines 40-52).

With respect to claim 7, Umemoto et al. teaches the lighting system characterized in that the distance d_{st} between two steps is in the range $0.1 \leq d_{st} \leq 10$ mm (Column 6, Lines 40-52).

With respect to claim 8, Umemoto et al. teaches the lighting system characterized in that the number of steps is in the range from 25 to 100 (Figure 4).

With respect to claim 9, Umemoto et al. teaches the lighting system characterized in that the length l_{fp} of the first portion as compared to the length l_{fw} of the front wall is in the range $0.05 \leq l_{fp}/l_{fw} \leq 0.6$ (Figure 4).

With respect to claim 10, Umemoto et al. teaches the lighting system characterized in that the ratio of the surface area S_{es} of the input edge surface to the surface area S_{tr} in the light emitting panel at the transition between the first portion and the second portion of the light emitting panel satisfies the relation $1 < S_{tr}/S_{es} < 10$ (Column 8, Lines 59-64).

With respect to claim 11, Umemoto et al. teaches the lighting system characterized in that the ratio is $1.5 < S_{tr}/S_{es} < 4$ (Column 8, Lines 59-64).

With respect to claim 12, Umemoto et al. teaches the lighting system characterized in that the front wall is provided with a translucent diffuser 53.

With respect to claim 13, Umemoto et al. teaches the lighting system characterized in that the front wall is provided with a light redirecting foil 54.

With respect to claim 16, Umemoto et al. teaches the lighting system is provided for a display device (Figure 13).

With respect to claim 17, Umemoto et al. teaches the lighting system wherein the display device comprises a liquid crystal display 80.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Umemoto et al. in view of Maas et al. (US Patent 6,745,506).

With respect to claims 14 and 15, Umemoto et al. teaches the lighting system wherein the light source comprises a light emitting diode, but fails to teach its color. Maas et al. teaches a lighting system 1 with at least two light emitting diodes 5 with different light emission wavelengths wherein each light emitting diode has a luminous flux of at least 5 lm (Column 6, Lines 29-34). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the light emitting diodes of Umemoto et al. with the teachings of Maas et al. because using light emitting diodes of different wavelengths allows the entire color spectrum to be emitted with a combination of the colors.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David J. Makiya whose telephone number is (571) 272-2273. The examiner can normally be reached on Monday-Friday 7:30am - 4:00pm (ET).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on (571) 272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

DJM 04/10/2006



RENEE LUEBKE
PRIMARY EXAMINER